

PROJECT NUMBER: 1307

PROJECT TITLE : Reconstituted Tobacco Development

PERIOD COVERED: September 1-30, 1985

PROJECT LEADER: R. G. Uhl

I. IMPROVED RL SHEET PROPERTIES

A. Objective

Improve the physical characteristics and blend performance of RL.

B. Status

1. A series of pilot RL test sheets was produced for the subjective evaluation of alternate humectant systems to replace TEG. Sorbitol was found to be subjectively unacceptable. The preferred alternate humectant for RLTC was 4% PG, while a combination of 3% PG/2.5% glycerin was preferred with the 150B flavor system.
2. About 20% of the PG added at the size press is lost in the tunnel dryer. PG losses in the OV test, etc., are being investigated with Analytical Services. Product from proposed Park 500 trials will be evaluated in the Semiworks for pads, survivability and sheet stability after various periods of warehouse storage.

C. Plans

Provide all necessary support for humectant trials at Park 500.

II. SUBJECTIVE MODIFICATION OF RL

A. Objective

Improve or modify the subjective character of RL.

B. Status

1. The Votator heat exchangers were examined with a metallurgical consultant. There was no evident corrosion or flaking of the chrome plating on the second exchanger, although scoring exposed the nickel substrate. Scale on the rotor contained phosphorous and calcium. Recommended cleaning agents are being obtained. Samples of acceptable and unacceptable RL/RCB precooked flavors made on this system, as well as current starting materials, are being analyzed offsite for trace metal content via neutron activation and plasma spectroscopy.

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2. Two of three precook batches made in the 20 gallon stainless batch reactor were subjectively acceptable (spray application). There were no detectable process or analytical differences between these. The good flavor batches were unacceptable when sized on pilot sheet. Cross products are being made using pilot/Park 500 baseweb/CEL with TC and RL/RCB flavors to isolate the subjective effects of the tobacco substrate from those of the size preparation technique.
3. Precooked flavor has been produced in the Flavor Development 1 liter continuous cooking system. A fully instrumented, multiple vessel continuous system is being designed for installation adjacent to the pilot plant in November.

C. Plans

1. Chemically clean and retest the Votator system.
2. Evaluate pilot/Park 500 cross-product sheets.
3. Review design of the new continuous flavor cooking system.

III. RCB

A. Objective

Develop and evaluate process and product improvements for cast sheets.

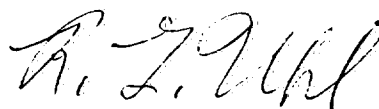
B. Status

1. Subjective screening of Modified RCB (TMCI with DAP) handsheets implicates lecithin belt release as a possible source of off notes. Additional tests are being conducted using domestic and European lecithins. Adding RCB quantities of sugar and dry flavors to the formulation gives a definite subjective improvement. Aging the slurry for 30 minutes adds some stemmy character but reduces bitterness and is considered an overall improvement. Aging also improved the physical quality of the handcast sheet.
2. Ammonium tartrate appears to be more effective than tartaric acid in lightening the color of RCB handsheets when the BL Plant makeup sequence is followed. Preliminary screening indicates a subjective limitation of 2% tartrate. Additional testing is in progress.

C. Plans

1. Continue program to improve subjective quality of Modified RCB.
2. Continue evaluation of color-lightening agents for RCB.
3. Provide support for humectant trials at the BL Plant.

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